IN THE SPECIFICATION

Please replace paragraph [0007] in the specification with the following:

[0007] ~~Figure 2~~ Figure 2A is a perspective view of a conductor for receiving a current sensor illustrated.

Please add the following paragraph immediately following revised paragraph [0007].

Figure 2B is a cross-sectional end view of conductor 16 in accordance with an embodiment of the present invention.

Please replace paragraph [0011] in the specification with the following:

[0011] ~~Figure 2~~ Figure 2A is a perspective view of a conductor 16 for receiving Hall effect devices 12. Conductor 16 is unitary and fabricated using a conductive material. In an alternative embodiment, conductor 14 is non-unitary. Conductor 16 includes a first side 18, a second side 20, a first edge 22, a second edge 24, a third edge 26, a fourth edge 28, and a thickness 30. Conductor 16 also includes a slot 32 extending from first side 18 to second side 20. Slot 32 is located at the approximate geometric center of conductor 16. Slot 32 is designed such that a current introduced at first edge 22 is divided into two approximately equal current components 34 and 36. Current sensor 10 is inserted at least partially into slot 32 and facilitates detecting a magnetic field created by current carrying conductor 16. The current components 34 and 36 then generate two magnetic ~~field components~~ fields 38 and 40 that are shaped such that they are substantially in the opposite direction and substantially equal in magnitude.

Please add the following paragraphs immediately following paragraph [0011].

Figure 2B is a cross-sectional end view of conductor 16 in accordance with an embodiment of the present invention. With current components 34 and 36 flowing into first edge 22 as described above in reference to Figure 2B, a magnetic field 38 and 40 is generated about each leg of conductor 18 in a clockwise direction. A first arrow 42 represents a first component of magnetic field 38 and a second arrow 43 represents a second component of magnetic field 38. A third arrow 44 represents a first component of magnetic field 40 and a fourth arrow 45

represents a second component of magnetic field 40. As illustrated by the relative size of the arrows, the first component of magnetic field 38 is larger than the second component of magnetic field 38 due primarily to a distance 46 between first arrow 42 and a centerline 47 of the right leg of conductor 16 being less then a distance 48 between second arrow 43 and centerline 47. It is known that there is an inverse relationship between the strength of a magnetic field and the distance from its origin. Similarly, arrow 44 is larger than arrow 45 to represent a larger magnetic field at arrow 44 than at arrow 45 due to a smaller distance 48 between arrow 44 and a centerline 49 of the right leg of conductor 16 than the distance between arrow 45 and centerline 49.

As is known, the shape and configuration of conductor 16 at least partially determines the shape of the magnetic field generated by current components 34 and 36 flowing through conductor 16. The magnitude of the magnetic field at any point surrounding conductor 16 is spatially dependent on its location with respect to conductor 16. For example, a point exactly between the legs of conductor 16 in slot 32 may experience no net magnetic field because the components the magnetic fields generated by current components 34 and 36 exactly cancel each other. However, a point closer to either leg of conductor 16 within slot 32 would have a net magnetic field due to the difference between the relative strengths of each respective field at that point. Therefore, a single Hall effect current sensor 12 positioned exactly between the right leg and left leg of conductor in slot 32 would not indicate an output due to a cancellation of the magnetic fields generated by current components 34 and 36. Two or more Hall effect current sensors 12 positioned laterally aligned in slot 32 as shown in figure 2B would each indicate an output due to each sensor 12 receiving a larger component of the magnetic field from one of the legs than the magnetic field component from the other leg. The output of each Hall effect current sensor 12 output is determined relative to a shape of conductor 16, a shape of the magnetic field generated by current components 34 and 36 and a distance from and a position relative to conductor 16. Such spatial dependence between each Hall effect current sensor 12 and each leg of conductor 16 permits determining the shape of the magnetic field generated by conductor 16.

One or more Hall effect current sensors 12 spaced longitudinally along a longitudinal axis 50 of slot 32 would each provide no output due to a cancellation of the magnetics field

generated by current components 34 and 36 as described above. One or more Hall effect current sensors 12 stacked perpendicularly in slot 32 would also provide no output due to the magnetic fields passing through each being the same.